



Illinois Department of Transportation

# Environmental Resources and Best Management Practices

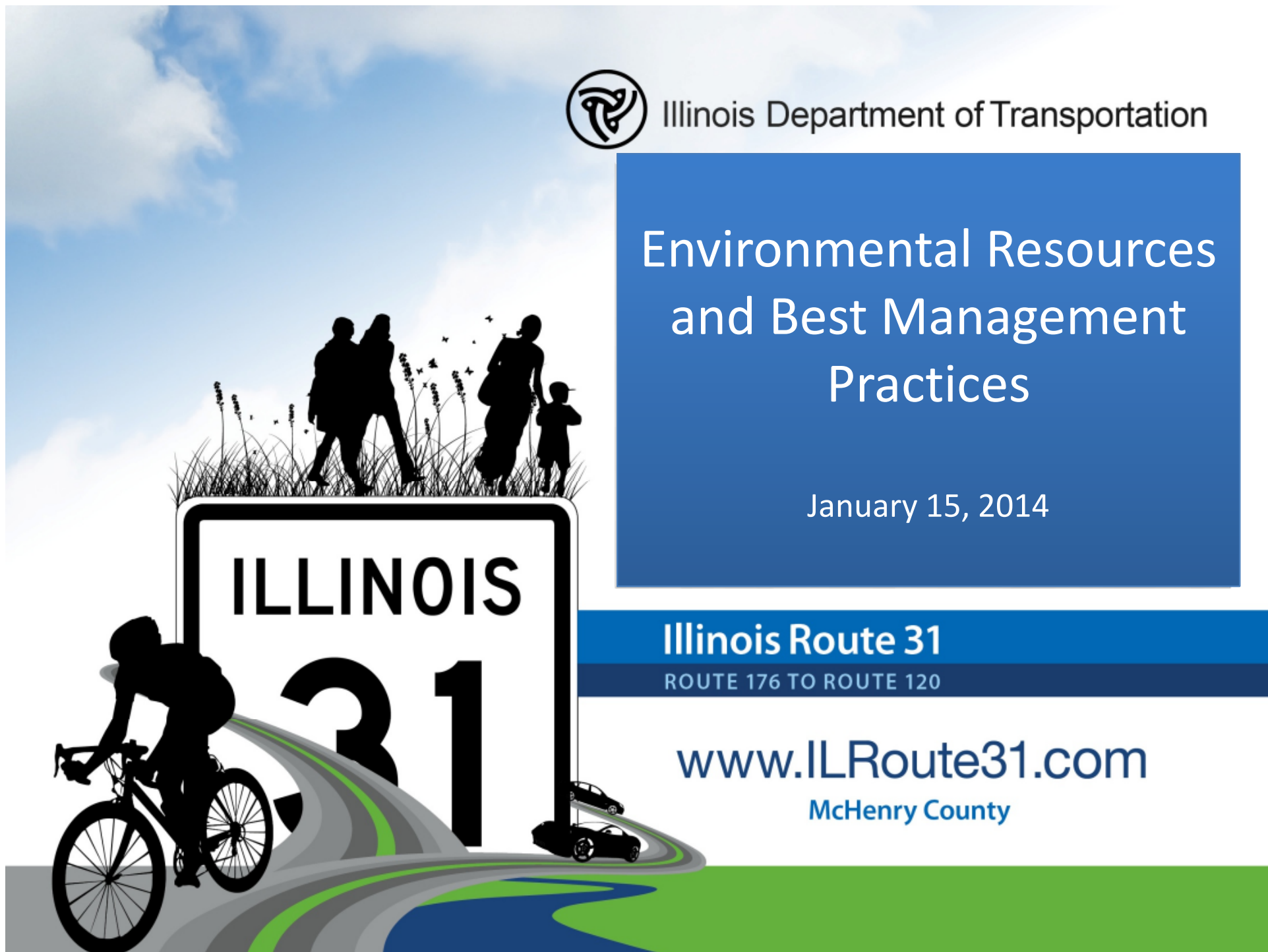
January 15, 2014

**Illinois Route 31**

ROUTE 176 TO ROUTE 120

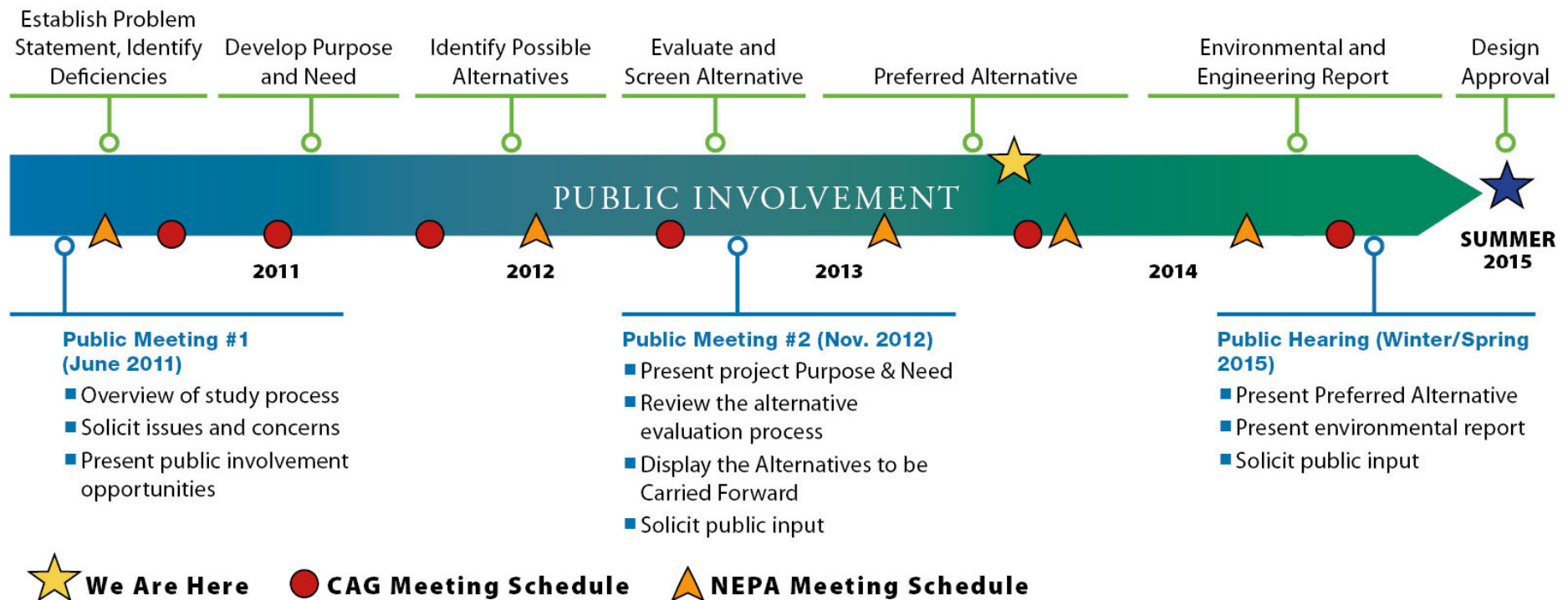
[www.ILRoute31.com](http://www.ILRoute31.com)

McHenry County






# Project Study Schedule

## PROJECT MILESTONES



# Watersheds and Streams

Watershed	Square Miles	Lane Miles of Watershed within IL 31 Corridor
Boone Creek 	23	0.16
Upper Fox River 	1,278	3.94
Sleepy Hollow Creek 	20	2.01
Silver Creek 	11	0.75



Illinois Department of Transportation



Illinois Route 31 • Route 176 to Route 120

# Watersheds and Streams

## General Watershed Goals

- Protect/Restore Stream Corridor
- Restore/Protect Natural Areas/Wildlife Habitat
- Maintain/Protect Surface Water Quality
- Protect Groundwater Quality
- Reduce Flood Damage



# Wetlands

- Delineation by INHS, 2011
- 37 wetland sites identified
- Wetland Quality:
  - » FQI ranged from 1.8 to 20.1
  - » One wetland with FQI > 20 (Seep, Site 35)
- 7 ADID wetlands identified
- 2 Seeps identified



# Minimizing Wetland Impacts

- Design modifications proposed to reduce environmental impacts:
  - » Urban roadway section
  - » Horizontal shift (to avoid seep wetland)
  - » Median and lane width reductions
  - » Retaining walls
- Median widths of 28' and 18' (River Birch to Ames)
  - » Reducing median to 28' from original width, along with lane widths to 11', reduces wetland impact by 0.3 acres
  - » Reducing median from 28' to 18' width has minimal reduction in impacts



# Watershed Goals and BMPs

- Goal: Protect/Maintain Water Quality
  - » Filter Strip
  - » Vegetated Swale
  - » Meander Squaw Creek
- Goal: Restore/Protect Wildlife/Aquatic Habitat
  - » Wildlife Crossings
  - » Natural Bottom Culverts
  - » Meander Squaw Creek
- Goal: Protect Groundwater
  - » Vegetated Swale
  - » Deicing BMPs



# BMP: Natural Bottom Culverts

- Four locations; contain a natural streambed for fish and small animal passage
- Promoted by US Fish and Wildlife Service
- Typical condition of Section 404 permit



## *Benefits:*

Supports fish passage, preserves natural streambed, terrestrial wildlife movement



# BMP: Vegetated Swale

- Drainage swales planted with natural vegetation
- BMP Benefits: Reduce runoff velocity, improve infiltration, and reduce pollutants
- Propose 3,637 feet of IL Route 31 vegetated swales

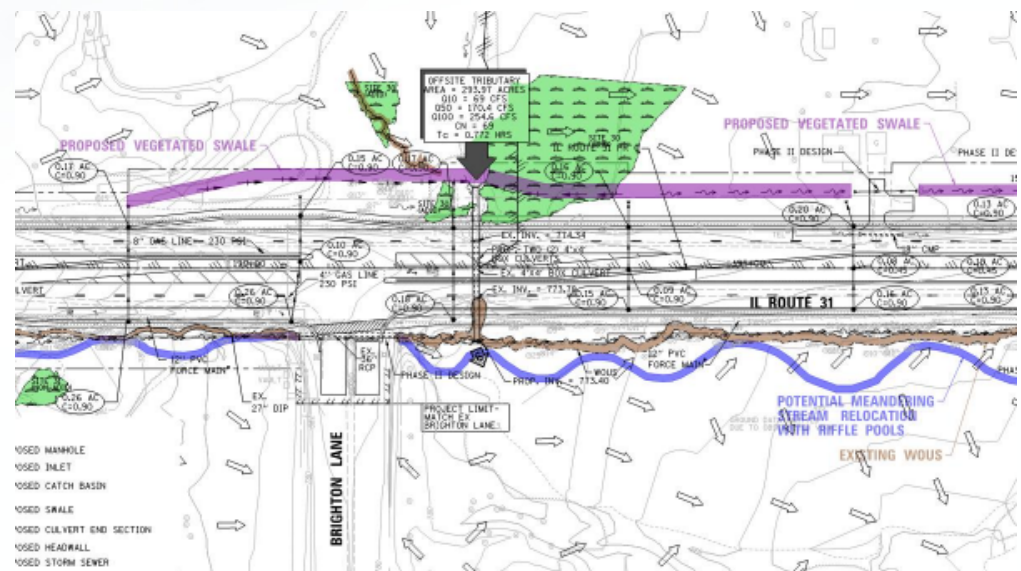


*Vegetated swale along Tri-State Tollway I-294  
(Photo by Huff & Huff)*



# BMP: Meandering Squaw Creek

- Creating bends in a straight stream to slow moving water
- *BMP Benefits:* Reduced storm water velocity, reduces erosion, reduce non-point sources of sediment, enhances aquatic habitat and diversity



# Propose 1,946 ft of meandering stream

# 2014 Planned Surveys

- Blanding's Turtle
  - » Thunderbird Lake
- Eastern Prairie Fringed Orchid
  - » East of IL 31
- Tree Survey

